ABSTRACT

A method for real estate taxation zones determination based on the transactions data for the city of Lublin

This manuscript proposes a method for estimating real estate valuation zones based on the transaction price of undeveloped land in the Lublin area. First, an in-depth analysis of the local real estate market and the obtained real estate price register data was carried out. Price-setting features were identified using local knowledge and various databases, and their description was made. The interval method was used to adjust the properties' transaction prices considering the inflation and the general economic trend. Geostatistical analyses of the spatial distribution of real estate prices were carried out. Cartographic visualizations were prepared, e.g., using the Hot Spot and kriging methods. With the help of artificial neural networks, a sensitivity analysis of real estate features was performed. Finally, real estate valuation zones were created based on price maps, local spatial management plans, study of the conditions and directions of spatial management map bases, and maps of the territorial development of the city, existing buildings, territorial reserves, and natural and artificial borders. The research indicates that urgent work is needed to standardize the procedures for entering and processing real estate market data at all data creation and circulation levels. Without a correct transaction record, "painlessly" imposing the cadastral tax will not be possible.

Keywords: real estate price register, general taxation of real estates, GIS, artificial neural networks, taxation zones

29.03.2023r.